5

PATENT Medtronic File No.: P8163.00 DBC File No.: M190.105.101

HELICAL NEEDLE APPARATUS FOR CREATING A VIRTUAL ELECTRODE USED FOR THE ABLATION OF TISSUE

Abstract

A surgical apparatus for delivering a conductive fluid to a target site for subsequent formation of a virtual electrode to ablate bodily tissue at the target site by applying a current to the delivered conductive fluid. The surgical apparatus includes an elongated device forming a helical needle. The helical needle is configured to engage bodily tissue and is hollow for delivering conductive fluid from a fluid source. Finally, the helical needle terminates in a needle tip. In one preferred embodiment, an electrode is associated with the helical needle for applying a current to conductive fluid delivered from the helical needle. During use, following delivery of conductive fluid, the electrode applies a current to the delivered conductive fluid for creating a virtual electrode. The virtual electrode ablates bodily tissue contacted by the conductive fluid.